

CONSOLIDATED INFORMATION TECHNOLOGY SERVICES TASK ASSIGNMENT (TA)

1. **TITLE:** (D211) IIFD Flight Deck Model

TA No:	RFC012-Rev7	
Task Area Monitor:	Alternate Task Area Monitor:	
NASA POC:	Software Control Class:	Low Control
Type of Task:	Non-Recurring Task	

2. **BACKGROUND**

This task supports the Integrated Intelligent Flight Deck (IIFD) project. IIFD research is based on a vision for future flight deck systems that includes systematic incorporation of integrated displays and interactions, decision-support functions, information management and abstraction, and appropriate human/automation function allocations. The future flight deck system is aware of the vehicle, operator, and airspace system state and responds appropriately. The system senses internal and external hazards, evaluates them, and provides key information to facilitate timely and appropriate responses. The system is robust and is adaptable to the addition of new functions and information sources as they become available. (See <http://www.aeronautics.nasa.gov/avsaf/iifd/index.htm> .)

3. **OBJECTIVE**

Develop a UML model of flight deck systems information management.

Goals:

The model should encompass flight deck information types such as

- " Databases (i.e. databases for airport maps, terrain data, obstacles, nav, charts)
- " Data from sensors (i.e. radars, FLIR, INS)
- " Data linked information (i.e. GPS, digital NOTAMs, ADS-B)
- " Pilot inputs (i.e. controls, communication)
- " And possibly derived data from information types above (i.e. velocity from GPS)

4. GENERAL IT SUPPORT SERVICES

Services Specified Through Exhibit A:

The model shall be maintained to operate as expected on the hardware provided to support the task.

Exceptions and Additional Requirements:

Where requirements for deliverables necessitate the procurement of either hardware or software, the Contractor shall procure those items that are needed for the successful and timely completion of task activities. Additionally, travel and training while not anticipated, may be required for successful completion of designated task activities.

General IT Support Services Performance Metrics

Performance Standard: Task requirements are met as specified in the task plan.

Performance Metrics:

- Exceeds: All task requirements are met; all task deliverables are provided on original schedule and are accepted by the customer with no problems reported.
- Meets: Task requirements are met and all task deliverables are provided within modified schedule agreed upon with the customer and are accepted after minor problems are reported and fixed.
- Fails: Any deliverable is not submitted or completely rejected by the customer.

5. SYSTEM AND APPLICATION DEVELOPMENT SERVICES

None required.

6. WORK-AREA SPECIFIC SERVICES

Work Area Title: Flight Deck Model

LaRC Manager:

Work Area Description: A model of flight deck information management is needed. It is proposed to develop a UML (Unified Modeling Language) model that encompasses the key avionics systems and the information parameters passed among them.

Work Area Requirements: " Review descriptions, presentations, and training material at www.aixm.aero to understand AIXM " Join the AIXM Forum from the website to follow discussion topics via email " Download the AIXM 5 UML model .mdl file from http://www.aixm.aero/public/standard_page/download.html " Download and install Rational Rose Modeler v 7 from <http://www-306.ibm.com/software/awdtools/developer/rose/modeler/> "A Rational Rose Modeler network license will be provided " Explore the various packages (Airport/Heliport, Airspace, etc) in AIXM 5 "

Search for flight deck conceptual models that could serve as a basis for an AIXM flight deck information package " Initiate the development of a new flight deck information

package for AIXM.

In addition, request the contract use Sparx Systems' Enterprise Architect in support of this task. As this tool is already used for other efforts it will not be GFE.

7. Exhibit A

None required.

8. SPECIAL SECURITY REQUIREMENTS

None required.

9. SOFTWARE ENGINEERING PROCESS REQUIREMENTS

None required.

10. JOINT REVIEW SCHEDULE

Bi-weekly meetings will be conducted with demonstration and discussion of progress.

11. PERIOD OF PERFORMANCE

This TA is effective from 12/01/01 to 04/27/10

12. TECHNICAL PERFORMANCE RATING

In evaluating Technical Performance, quality and timeliness shall be rated as follows:

Quality: 50% Timeliness: 50%

13. RESPONSE REQUIREMENTS

Within two weeks from the receipt of this task assignment, submit to the Contracting Officer's Representative, an original and two copies of a Task Plan. This Task Plan shall address the contractor's lead personnel; specific work plans; and the associated estimated labor hours, cost and schedule. The task plan shall include the delivery of schedule for delivery of the Software Project Management Plan (SPMP), Maintenance Plan, and Operations Plan, when they are required. Include a signature block for concurrence by the Contract Manager and approval by the Contracting Officer's Representative.

14. FUNDING INFORMATION

Funding has not been entered for this TA.

15. MILESTONES

None required.

16. DELIVERABLES

Number	Deliverable Item	Deliverable Schedule
1	Develop UML deployment and data flow diagrams modeling flight deck systems information management	4/27/2010

17. FILE ATTACHMENTS

None.